

SIMPLIFYING RATIOS Simplify the ratio.

3. \$20:\$5 $\boxed{4:1}$

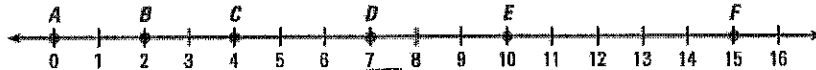
4. $\frac{15 \text{ cm}^2}{12 \text{ cm}^2}$ $\boxed{\frac{5}{4}}$

5. 6 L: 10 mL $\frac{6000}{10} = \boxed{600:1}$

7. $\frac{7 \text{ ft}}{12 \text{ in.}}$ $\frac{84}{12} = \boxed{\frac{7}{1}}$

8. $\frac{80 \text{ cm}}{2 \text{ m}}$ $\frac{80}{200} = \boxed{\frac{2}{5}}$

9. $\frac{3 \text{ lb}}{10 \text{ oz}}$ $\frac{48}{10} = \boxed{\frac{24}{5}}$

FINDING RATIOS Use the number line to find the ratio of the distances.

14. $\frac{AD}{CF}$ $\boxed{\frac{7}{11}}$

15. $\frac{BD}{AB}$ $\boxed{\frac{5}{2}}$

- 18.
- PERIMETER**
- The perimeter of a rectangle is 154 feet. The ratio of the length to the width is 10:1. Find the length and the width.

- 19.
- SEGMENT LENGTHS**
- In the diagram,
- $AB:BC$
- is 2:7 and
- $AC = 36$
- . Find
- AB
- and
- BC
- .

**USING EXTENDED RATIOS** The measures of the angles of a triangle are in the extended ratio given. Find the measures of the angles of the triangle.

20. 3:5:10

$3x + 5x + 10x = 180$

$\boxed{30^\circ \ 50^\circ \ 100^\circ}$

$18x$
 $x = 18$

ALGEBRA Solve the proportion.

$1 + 3b = 10$

$3b = 9$

$b = 3$

29. $\frac{1+3b}{A^2} = \frac{5}{2}$

30. $\frac{3}{2p+5} = \frac{1}{9p}$

$2p + 5 = 27p$

$5 = 25p$

$\frac{1}{5} = p$

GEOMETRIC MEAN Find the geometric mean of the two numbers.

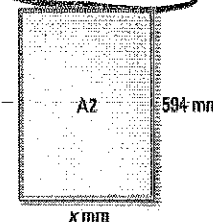
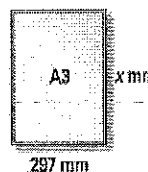
34. 4 and 16

35. 2 and 25

$\frac{2}{x} = \frac{x}{25}$
 $x = 10$

$x^2 = 50$
 $x = 5\sqrt{2}$

- 60.
- PAPER SIZES**
- International standard paper sizes are commonly used all over the world. The various sizes all have the same width-to-length ratios. Two sizes of paper are shown, called A3 and A2. The distance labeled
- x
- is the geometric mean of 297 mm and 594 mm. Find the value of
- x
- .



- 65.
- CURRENCY EXCHANGE**
- Emily took 500 U.S. dollars to the bank to exchange for Canadian dollars. The exchange rate on that day was 1.2 Canadian dollars per U.S. dollar. How many Canadian dollars did she get in exchange for the 500 U.S. dollars?

REASONING Decide whether the statement is true or false.

7. If $\frac{8}{m} = \frac{n}{9}$, then $\frac{8+m}{m} = \frac{n+9}{9}$. True

8. If $\frac{5}{7} = \frac{a}{b}$, then $\frac{7}{5} = \frac{a}{b}$. False

9. If $\frac{d}{2} = \frac{g+10}{11}$, then $\frac{d}{g+10} = \frac{2}{11}$. True

10. If $\frac{4+x}{4} = \frac{3+y}{y}$, then $\frac{x}{4} = \frac{3}{y}$. True

#19

$2x + 7x = 36$

$9x = 36$

$x = 4$

$\boxed{AB = 8 \ BC = 28}$

$\boxed{\frac{10}{8}}$

$2(10x + 1x) = 154$

$\boxed{70 \text{ ft}}$
 $\boxed{7 \text{ ft}}$

$11x = 77$

$x = 7$

#34

$\frac{4}{x} = \frac{x}{16}$

$x^2 = 4 \cdot 16$

$x = 8$

#65

$\frac{1.2}{1} = \frac{x}{500}$

$\boxed{x = 600 \text{ Can dollars}}$

#60

$\frac{297}{x} = \frac{x}{594}$

$x^2 = 297 \cdot 594$

$\boxed{x \approx 420 \text{ mm}}$

$= 297\sqrt{2} \text{ mm}$